

Mammals

By Monica Parisi

So often when the term “wild animal” is used, it is a mammal which immediately comes to mind. Mammals are warm-blooded animals, usually covered with fur or hair, that nurse their young through mammary glands. This class of vertebrates includes everything from shrews to bats to foxes to whales. A significant 197 native mammal species occur in California (CDFG and CIWTG 2002).

Large mammals such as mule deer (*Odocoileus hemionus*) and mountain lion (*Puma concolor*) are the best known. However, the majority of mammal species in California are relatively small. The greatest species richness is found in the squirrel and chipmunk family and in the woodrat and vole family. Many of the species in these families rely on forested habitats, so it is not surprising that species richness is high where forest vegetation is abundant. This is true in the Klamath/North Coast, Modoc, and Sierra regions. Pocket mice and kangaroo rats, all well adapted to arid climates, account for much of the species richness on the eastern side of the Modoc and Sierra regions and in the Colorado Desert. Kangaroo rats even have specialized kidneys which excrete solid urine, allowing them to survive for long periods without drinking water.

Although California shares its high mammal species richness with several southwestern states, it has by far the highest mammal endemism of any state in the country. California has 17 endemic mammal species. Alaska follows with seven, and Oregon with three (Stein et al. 2000). Endemism is unusually high in the Sacramento and San Joaquin Valley regions. Three species and 22 subspecies of mammals endemic to the state occur in the Central Valley.



The list of endemic mammal species includes the state-threatened island gray fox (*Urocyon littoralis*), found only on the Channel Islands. Photo courtesy of National Park Service



Big-eared kangaroo rat (*Dipodomys venustus* ssp. *santaluciaae*), a subspecies of narrow-faced kangaroo rat
Photo © Caitlin Bean

Geographic isolation is one factor that contributes to endemism, and the southwestern portion of the San Joaquin Valley provides an example. Several endemic mammal species or subspecies have evolved in the arid grassland and scrub habitats found there. Evidence suggests that between 4,000 and 8,000 years ago, dry climatic conditions allowed the extension of desert species from east of the Sierra Nevada into the San Joaquin Valley through various passes. When cooler and moister conditions returned, many populations became isolated from the Mojave Desert by bands of woodland and chaparral habitats (Bradford 1992).

Multi-agency recovery efforts for special status species include a plan for the San Joaquin Valley (Williams et al. 1997) that addresses several endemic mammals. The plan contains strategies for protecting lands on which these species already occur from incompatible uses and restoring habitat value to lands that can serve as movement corridors between isolated patches of habitat.

Mammal Species Endemic to California

Mount Lyell shrew	<i>Sorex lyelli</i>
Alpine chipmunk	<i>Tamias alpinus</i>
Sonoma chipmunk	<i>Tamias sonomae</i>
Yellow-cheeked chipmunk	<i>Tamias ochrogenys</i>
San Joaquin antelope squirrel	<i>Ammospermophilus nelsoni</i>
Mohave ground squirrel	<i>Spermophilus mohavensis</i>
San Joaquin pocket mouse	<i>Perognathus inornatus</i>
White-eared pocket mouse	<i>Perognathus alticolus</i>
Narrow-faced kangaroo rat	<i>Dipodomys venustus</i>
Pacific kangaroo rat	<i>Dipodomys agilis</i>
Heerman's kangaroo rat	<i>Dipodomys heermanni</i>
Giant kangaroo rat	<i>Dipodomys ingens</i>
Stephen's kangaroo rat	<i>Dipodomys stephensi</i>
Fresno kangaroo rat	<i>Dipodomys nitratooides</i>
Salt-marsh harvest mouse	<i>Reithrodontomys raviventris</i>
California red tree vole	<i>Arborimus pomo</i>
Island gray fox	<i>Urocyon littoralis</i>

